

## CRF Errors Corrected by the STIC Systems Branch

0570  
0620  
01PE  
7/3/02

Serial Numbr: 091943,075A

CRF Processing Date: 7/3/02  
Edited by: DC  
Verified by: DC (STIC staff)

- Changed a file from non-ASCII to ASCII
- Changed the margins in cases where the sequence text was "wrapped" down to the next line.
- Edited a format error in the Current Application Data section, specifically: ENTERED
- Edited the Current Application Data section with the actual current number. The number inputted by the applicant was  the prior application data; or  other \_\_\_\_\_
- Added the mandatory heading and subheadings for "Current Application Data".
- Edited the "Number of Sequences" field. The applicant spelled out a number instead of using an integer.
- Changed the spelling of a mandatory field (the headings or subheadings), specifically: \_\_\_\_\_
- Corrected the SEQ ID NO when obviously incorrect. The sequence numbers that were edited were: \_\_\_\_\_
- Inserted or corrected a nucleic number at the end of a nucleic line. SEQ ID NO's edited: \_\_\_\_\_
- Corrected subheading placement. All responses must be on the same line as each subheading. If the applicant placed a response below the subheading, this was moved to its appropriate place.
- Inserted colons after headings/subheadings. Headings edited included: \_\_\_\_\_
- Deleted extra, invalid, headings used by an applicant, specifically: \_\_\_\_\_
- Deleted:  non-ASCII "garbage" at the beginning/end of files;  secretary initials/filename at end of file;  
 page numbers throughout text;  other invalid text, such as \_\_\_\_\_
- Inserted mandatory headings, specifically: \_\_\_\_\_
- Corrected an obvious error in the response, specifically: \_\_\_\_\_
- Edited identifiers where upper case is used but lower case is required, or vice versa.
- Corrected an error in the Number of Sequences field, specifically: \_\_\_\_\_
- A "Hard Page Break" code was inserted by the applicant. All occurrences had to be deleted.
- Deleted *ending* stop codon in amino acid sequences and adjusted the "(A)Length:" field accordingly (error due to a PatentIn bug). Sequences corrected: \_\_\_\_\_
- Other: \_\_\_\_\_  
\_\_\_\_\_

\*Examiner: The above corrections must be communicated to the applicant in the first Office Action. DO NOT send a copy of this form.

44 11



OIPE

RAW SEQUENCE LISTING DATE: 07/03/2002  
 PATENT APPLICATION: US/09/943,075A TIME: 13:57:31

Input Set : A:\PTO.DC.txt  
 Output Set: N:\CRF3\07032002\I943075A.raw

4 <110> APPLICANT: Popoff, Steven N.  
 5 Safado, Faye F.  
 6 Owen, Thomas A.  
 7 Smock, Steven L.  
 9 <120> TITLE OF INVENTION: Osteoactivin Protein and Nucleic Acids Encoding the Same,  
 Compositions and Methods of Stimulating Bone Differentiation  
 12 <130> FILE REFERENCE: 71369.262  
 14 <140> CURRENT APPLICATION NUMBER: US 09/943,075A  
 15 <141> CURRENT FILING DATE: 2001-08-30  
 17 <150> PRIOR APPLICATION NUMBER: US 60/229,006  
 18 <151> PRIOR FILING DATE: 2000-08-30  
 20 <160> NUMBER OF SEQ ID NOS: 8  
 22 <170> SOFTWARE: FastSEQ for Windows Version 4.0  
 24 <210> SEQ ID NO: 1  
 25 <211> LENGTH: 2320  
 26 <212> TYPE: DNA  
 27 <213> ORGANISM: Rat osteoactivin  
 29 <220> FEATURE:  
 30 <221> NAME/KEY: CDS  
 31 <222> LOCATION: (115)...(1833)  
 33 <400> SEQUENCE: 1  
 34 gtatttcata aaacagagag gatcgccagg ggcgggact ctgactcttg gtggatggga 60  
 35 ctagggagtc agagtcaagc cctgactggc tgagggcgaa cgctccgagt cagc atg 117  
 36 Met  
 37 1  
 38 gaa agt ctc tgc ggg gtc ctg gta ttt ctg ctg ctg gct gca gga ctg 165  
 39 Glu Ser Leu Cys Gly Val Leu Val Phe Leu Leu Leu Ala Ala Gly Leu  
 40 5 10 15  
 41 ccg ctc cag ggc aag cgg ttc cgt gat gtg ctg ggc cat gag cag 213  
 42 Pro Leu Gln Ala Ala Lys Arg Phe Arg Asp Val Leu Gly His Glu Gln  
 43 20 25 30  
 44 tat ccg gat cac atg agg gag aac aac caa tta cgt ggc tgg tct tca 261  
 45 Tyr Pro Asp His Met Arg Glu Asn Asn Gln Leu Arg Gly Trp Ser Ser  
 46 35 40 45  
 47 gat gaa aat gaa tgg gat gaa cag ctg tat cca gtc tgg agg agg gga 309  
 48 Asp Glu Asn Glu Trp Asp Glu Gln Leu Tyr Pro Val Trp Arg Arg Gly  
 49 50 55 60 65  
 50 gag ggc aga tgg aag gac tcc tgg gaa gga ggc cgt gtg cag gca gcc 357  
 51 Glu Gly Arg Trp Lys Asp Ser Trp Glu Gly Gly Arg Val Gln Ala Ala  
 52 70 75 80  
 53 cta acc agt gat tca ccg gcc ttg gtc ggt tcc aat atc acc ttc gta 405  
 54 Leu Thr Ser Asp Ser Pro Ala Leu Val Gly Ser Asn Ile Thr Phe Val  
 55 85 90 95

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63	gtg	aac	ctg	gtg	ttc	ccc	aga	tgc	cag	aag	gaa	gat	gcc	aac	ggc	aat	453
64	Val	Asn	Leu	Val	Phe	Pro	Arg	Cys	Gln	Lys	Glu	Asp	Ala	Asn	Gly	Asn	
65	100				105					110							501
67	atc	gtc	tat	gag	agg	aac	tgc	aga	agt	gat	ttg	gag	ctg	gct	tct	gac	
68	Ile	Val	Tyr	Glu	Arg	Asn	Cys	Arg	Ser	Asp	Leu	Glu	Leu	Ala	Ser	Asp	
69	115				120					125							
71	ccg	tat	gtc	tac	aac	tgg	acc	aca	ggg	gca	gac	gat	gag	gac	tgg	gaa	549
72	Pro	Tyr	Val	Tyr	Asn	Trp	Thr	Thr	Gly	Ala	Asp	Asp	Glu	Asp	Trp	Glu	
73	130				135				140				145				
75	gac	aac	acc	agc	caa	ggc	cag	cac	ctc	agg	ttc	ccc	gac	ggg	aag	ccc	597
76	Asp	Asn	Thr	Ser	Gln	Gly	Gln	His	Leu	Arg	Phe	Pro	Asp	Gly	Lys	Pro	
77					150				155				160				
79	ttc	cct	cgc	ccc	cac	gga	cgg	aag	aaa	tgg	aac	ttc	gtc	tac	gtc	ttc	645
80	Phe	Pro	Arg	Pro	His	Gly	Arg	Lys	Lys	Trp	Asn	Phe	Val	Tyr	Val	Phe	
81	165				170				175								
83	cac	aca	ctt	ggt	cay	lat	ttt	caa	aag	ctg	ggt	cag	tgt	tca	gca	cga	693
84	His	Thr	Leu	Gly	Gln	Tyr	Phe	Gln	Lys	Leu	Gly	Gln	Cys	Ser	Ala	Arg	
85	180				185				190								
87	gtt	tct	ata	aac	aca	gtc	aac	ttg	aca	gtt	ggc	cct	cag	gtc	atg	gaa	741
88	Val	Ser	Ile	Asn	Thr	Val	Asn	Leu	Thr	Val	Gly	Pro	Gln	Val	Met	Glu	
89	195				200				205								
91	gtg	att	gtc	ttt	cga	aga	cac	ggc	cgg	gca	tac	att	ccc	atc	tcc	aaa	789
92	Val	Ile	Val	Phe	Arg	Arg	His	Gly	Arg	Ala	Tyr	Ile	Pro	Ile	Ser	Lys	
93	210				215				220				225				
95	gtg	aaa	gac	gtg	tat	gtg	ata	aca	gat	cag	atc	cct	ata	ttc	gtg	acc	837
96	Val	Lys	Asp	Val	Tyr	Val	Ile	Thr	Asp	Gln	Ile	Pro	Ile	Phe	Val	Thr	
97					230				235				240				
99	atg	tac	cag	aag	aat	gac	cgg	aac	tgc	tct	gat	gaa	acc	ttc	ctc	aga	885
100	Met	Tyr	Gln	Lys	Asn	Asp	Arg	Asn	Ser	Ser	Asp	Glu	Thr	Phe	Leu	Arg	
101					245				250				255				
103	gac	ctc	ccc	att	ttc	tcc	gat	gtc	ctc	att	cac	gat	ccc	agt	cat	ttc	933
104	Asp	Leu	Pro	Ile	Phe	Phe	Asp	Val	Leu	Ile	His	Asp	Pro	Ser	His	Phe	
105	260				265				270								
107	ctc	aac	tac	tct	gcc	att	tcc	tac	aag	tgg	aac	ttt	ggg	gac	aac	act	981
108	Leu	Asn	Tyr	Ser	Ala	Ile	Ser	Tyr	Lys	Trp	Asn	Phe	Gly	Asp	Asn	Thr	
109	275				280				285								
111	ggc	ctg	ttt	gtc	tcc	aac	aat	cac	act	ttg	aat	cac	acg	tat	gtg	ctc	1029
112	Gly	Leu	Phe	Val	Ser	Asn	Asn	His	Thr	Leu	Asn	His	Thr	Tyr	Val	Leu	
113	290				295				300				305				
115	aat	gga	acc	ttc	aac	ttt	aac	ctc	acc	gtg	caa	act	gca	gtg	ccg	gga	1077
116	Asn	Gly	Thr	Phe	Asn	Phe	Asn	Leu	Thr	Val	Gln	Thr	Ala	Val	Pro	Gly	
117					310				315				320				
119	cca	tgc	ccc	tca	ccc	aca	cct	tgc	cct	tct	tgc	act	tct	cct	tgc		1125
120	Pro	Cys	Pro	Ser	Pro	Thr	Pro	Ser	Pro	Ser	Ser	Ser	Ser	Thr	Ser	Pro	Ser
121					325				330				335				
123	cct	gca	tct	tgc	cct	tca	ccc	aca	tta	tca	aca	cct	agt	ccc	tct	tta	1173
124	Pro	Ala	Ser	Ser	Pro	Ser	Pro	Thr	Leu	Ser	Thr	Pro	Ser	Pro	Ser	Leu	
125					340				345				350				
127	atg	cct	act	ggc	tac	aaa	tcc	atg	gag	ctg	agt	gac	att	tcc	aat	gaa	1221

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128	Met Pro Thr Gly Tyr Lys Ser Met Glu Leu Ser Asp Ile Ser Asn Glu			
129	355	360	365	
131	aac tgc cga ata aac aga tat ggt tac ttc aga gcc acc atc aca att		1269	
132	Asn Cys Arg Ile Asn Arg Tyr Gly Tyr Phe Arg Ala Thr Ile Thr Ile			
133	370	375	380	385
135	gta gat gga atc cta gaa gtc aac atc atc cag gta gca gat gtc cca		1317	
136	Val Asp Gly Ile Leu Glu Val Asn Ile Ile Gln Val Ala Asp Val Pro			
137	390	395	400	
139	atc ccc aca ctg cag cct gac aac tca ctg atg gac ttc att gtg acc		1365	
140	Ile Pro Thr Leu Gln Pro Asp Asn Ser Leu Met Asp Phe Ile Val Thr			
141	405	410	415	
143	tgc aaa ggg gcc act ccc acg gaa gcc tgt acg atc atc tct gac ccc		1413	
144	Cys Lys Gly Ala Thr Pro Thr Glu Ala Cys Thr Ile Ile Ser Asp Pro			
145	420	425	430	
147	acc tgc cag atc gcc cag aac agg gtg tgc agc ccg gtg gct gtg gat		1461	
148	Thr Cys Gln Ile Ala Cln Asn Arg Val Cys Ser Pro Val Ala Val Asp			
149	435	440	445	
151	gag ctg tgc ctc ctg tcc gtg agg aga gcc ttc aat ggg tcc ggc acg		1509	
152	Glu Leu Cys Leu Leu Ser Val Arg Arg Ala Phe Asn Gly Ser Gly Thr			
153	450	455	460	465
155	tac tgt gtg aat ttc act ctg gga gac gat gca agc ctg gcc ctc acc		1557	
156	Tyr Cys Val Asn Phe Thr Leu Gly Asp Asp Ala Ser Leu Ala Leu Thr			
157	470	475	480	
159	agc gcc ctg atc tct atc cct ggc aaa gac cta ggc tcc cct ctg aga		1605	
160	Ser Ala Leu Ile Ser Ile Pro Gly Lys Asp Leu Gly Ser Pro Leu Arg			
161	485	490	495	
163	aca gtg aat ggt gtc ctg atc tcc att ggc tgc ctg gcc atg ttt gtc		1653	
164	Thr Val Asn Gly Val Leu Ile Ser Ile Gly Cys Leu Ala Met Phe Val			
165	500	505	510	
167	acc atg gtt acc atc ttg ctg tac aaa aaa cac aag acg tac aag cca		1701	
168	Thr Met Val Thr Ile Leu Leu Tyr Lys Lys His Lys Thr Tyr Lys Pro			
169	515	520	525	
171	ata gga aac tgc acc agg aac gtg gtc aag ggc aaa ggc ctg agt gtt		1749	
172	Ile Gly Asn Cys Thr Arg Asn Val Val Lys Gly Lys Gly Leu Ser Val			
173	530	535	540	545
175	ttt ctc agc cat gca aaa gcc ccg ttc tcc cga gga gac cgg gag aag		1797	
176	Phe Leu Ser His Ala Lys Ala Pro Phe Ser Arg Gly Asp Arg Glu Lys			
177	550	555	560	
179	gat cca ctg ctc cag gac aag cca tgg atg ctc taa gtcttcactc		1843	
180	Asp Pro Leu Leu Gln Asp Lys Pro Trp Met Leu *			
181	565	570		
183	tcacttcta ctggaaaccttactttctgt gcatgttatgt gagcttgca gaagtatcatg		1903	
184	actggtagct gtgtttttctt acggattattt gtaaaaatgtatcatgtttagggatgt		1963	
185	agtttaattgg catttttagt aagggtatggg aagacatgtat ttcttcgtat ctgtattgt		2023	
186	gtttttatac tgtaaatagg gtgggcacat tttgttctgaa ggggggggggg gaggctactg		2083	
187	ctacttaaagg tccttagtta actggggagag gatggcccccag gctctttaga tttctatcac		2143	
188	agatgtgcct gaaccgcgtt acttcgttgcattaaatgcgttcatcaa ctatctatcta		2203	
189	gtctatggaa catacttgag cgcctgtatgg aattaaatgcgttcatcaa ctatctatcta		2263	
190	tatgttgttq tacataaagat actcattaaa aagacatgtt attaaaaaaa aaaaaaaaa		2320	

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Input Set : A:\PTO.DC.txt

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192 <210> SEQ ID NO: 2  
193 <211> LENGTH: 572  
194 <212> TYPE: PRT  
195 <213> ORGANISM: Rat osteoactivin  
197 <400> SEQUENCE: 2  
198 Met Glu Ser Leu Cys Gly Val Leu Val Phe Leu Leu Ala Ala Gly  
199 1 5 10 15  
200 Leu Pro Leu Gln Ala Ala Lys Arg Phe Arg Asp Val Leu Gly His Glu  
201 20 25 30  
202 Gln Tyr Pro Asp His Met Arg Glu Asn Asn Gln Leu Arg Gly Trp Ser  
203 35 40 45  
204 Ser Asp Glu Asn Glu Trp Asp Glu Gln Leu Tyr Pro Val Trp Arg Arg  
205 50 55 60  
206 Gly Glu Gly Arg Trp Lys Asp Ser Trp Glu Gly Gly Arg Val Gln Ala  
207 65 70 75 80  
208 Ala Leu Thr Ser Asp Ser Pro Ala Leu Val Gly Ser Asn Ile Thr Phe  
209 85 90 95  
210 Val Val Asn Leu Val Phe Pro Arg Cys Gln Lys Glu Asp Ala Asn Gly  
211 100 105 110  
212 Asn Ile Val Tyr Glu Arg Asn Cys Arg Ser Asp Leu Glu Leu Ala Ser  
213 115 120 125  
214 Asp Pro Tyr Val Tyr Asn Trp Thr Thr Gly Ala Asp Asp Glu Asp Trp  
215 130 135 140  
216 Glu Asp Asn Thr Ser Gln Gly Gln His Leu Arg Phe Pro Asp Gly Lys  
217 145 150 155 160  
218 Pro Phe Pro Arg Pro His Gly Arg Lys Lys Trp Asn Phe Val Tyr Val  
219 165 170 175  
220 Phe His Thr Leu Gly Gln Tyr Phe Gln Lys Leu Gly Gln Cys Ser Ala  
221 180 185 190  
222 Arg Val Ser Ile Asn Thr Val Asn Leu Thr Val Gly Pro Gln Val Met  
223 195 200 205  
224 Glu Val Ile Val Phe Arg Arg His Gly Arg Ala Tyr Ile Pro Ile Ser  
225 210 215 220  
226 Lys Val Lys Asp Val Tyr Val Ile Thr Asp Gln Ile Pro Ile Phe Val  
227 225 230 235 240  
228 Thr Met Tyr Gln Lys Asn Asp Arg Asn Ser Ser Asp Glu Thr Phe Leu  
229 245 250 255  
230 Arg Asp Leu Pro Ile Phe Phe Asp Val Leu Ile His Asp Pro Ser His  
231 260 265 270  
232 Phe Leu Asn Tyr Ser Ala Ile Ser Tyr Lys Trp Asn Phe Gly Asp Asn  
233 275 280 285  
234 Thr Gly Leu Phe Val Ser Asn Asn His Thr Leu Asn His Thr Tyr Val  
235 290 295 300  
236 Leu Asn Gly Thr Phe Asn Phe Asn Leu Thr Val Gln Thr Ala Val Pro  
237 305 310 315 320  
238 Gly Pro Cys Pro Ser Pro Thr Pro Ser Ser Ser Ser Thr Ser Pro  
239 325 330 335  
240 Ser Pro Ala Ser Ser Pro Ser Pro Thr Leu Ser Thr Pro Ser Pro Ser  
241 340 345 350

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242 Leu Met Pro Thr Gly Tyr Lys Ser Met Glu Leu Ser Asp Ile Ser Asn  
243 355 360 365  
244 Glu Asn Cys Arg Ile Asn Arg Tyr Gly Tyr Phe Arg Ala Thr Ile Thr  
245 370 375 380  
246 Ile Val Asp Gly Ile Leu Glu Val Asn Ile Ile Gln Val Ala Asp Val  
247 385 390 395 400  
248 Pro Ile Pro Thr Leu Gln Pro Asp Asn Ser Leu Met Asp Phe Ile Val  
249 405 410 415  
250 Thr Cys Lys Gly Ala Thr Pro Thr Glu Ala Cys Thr Ile Ile Ser Asp  
251 420 425 430  
252 Pro Thr Cys Gln Ile Ala Gln Asn Arg Val Cys Ser Pro Val Ala Val  
253 435 440 445  
254 Asp Glu Leu Cys Leu Leu Ser Val Arg Arg Ala Phe Asn Gly Ser Gly  
255 450 455 460  
256 Thr Tyr Cys Val Asn Phe Thr Leu Gly Asp Asp Ala Ser Leu Ala Leu  
257 465 470 475 480  
258 Thr Ser Ala Leu Ile Ser Ile Pro Gly Lys Asp Leu Gly Ser Pro Leu  
259 485 490 495  
260 Arg Thr Val Asn Gly Val Leu Ile Ser Ile Gly Cys Leu Ala Met Phe  
261 500 505 510  
262 Val Thr Met Val Thr Ile Leu Leu Tyr Lys Lys His Lys Thr Tyr Lys  
263 515 520 525  
264 Pro Ile Gly Asn Cys Thr Arg Asn Val Val Lys Gly Lys Gly Leu Ser  
265 530 535 540  
266 Val Phe Leu Ser His Ala Lys Ala Pro Phe Ser Arg Gly Asp Arg Glu  
267 545 550 555 560  
268 Lys Asp Pro Leu Leu Gln Asp Lys Pro Trp Met Leu  
269 565 570  
272 <210> SEQ ID NO: 3  
273 <211> LENGTH: 18  
274 <212> TYPE: PRT  
275 <213> ORGANISM: Rat osteoactivin  
277 <400> SEQUENCE: 3  
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279 1 5 10 15  
280 Asp Glu  
284 <210> SEQ ID NO: 4  
285 <211> LENGTH: 19  
286 <212> TYPE: PRT  
287 <213> ORGANISM: Rat osteoactivin  
289 <400> SEQUENCE: 4  
290 Lys Ala Pro Phe Ser Arg Gly Asp Arg Glu Lys Asp Pro Leu Leu Gln  
291 1 5 10 15  
292 Asp Lys Cys  
296 <210> SEQ ID NO: 5  
297 <211> LENGTH: 574  
298 <212> TYPE: PRT  
299 <213> ORGANISM: Mouse  
301 <400> SEQUENCE: 5

**VERIFICATION SUMMARY** DATE: 07/03/2002  
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